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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,526	11/25/2003	Jung Kan Lin	MR1035-1342	5128

4586 7590 06/22/2005

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ELLICOTT CITY, MD 21043

EXAMINER

WARTALOWICZ, PAUL A

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/720,526		LIN, JUNG KAN	
	Examiner		Art Unit	
		Paul A. Wartalowicz	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

AS

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "32" has been used to designate both a first outer package mold and a second outer package mold. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 6 is objected to because of the following informalities: The word "is" should be between the words "layer" and "further" in the recitation. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. The recitation "a package mold precipitated a phosphor sediment layer on bottom" in claim 1, lines 6-7 render the claim indefinite. It is unclear whether the package mold precipitates the phosphor sediment layer. It is also unclear what is meant by "bottom" in the recitation. What is the phosphor sediment layer on the bottom of?

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, and 3-5 of copending Application No. 10/662289 in view of Chin et al. (U.S. 2004/0135162).

Application No. 10/662289 teaches a structure of surface mount device light emitting diode (SMD LED) (claim 1), including: a printed circuit board for a substrate (claim 1), an LED chip bonded to the substrate (claim 1), and an encapsulant formed over the LED chip (claim 1) which is made of epoxy (claim 5). Application No. 10/662289 fails to teach a phosphoric medium layer comprising a phosphor sediment layer on the bottom tightly covering the light emitting diode die.

Chin et al., however, teaches an LED package structure comprising a phosphor sediment layer further comprising phosphor powders (paragraph 0015, lines 6-7) for the purpose of creating stable lighting (paragraph 0007, lines 15-16).

Thus, it would have been obvious to one of ordinary skill in the art at the time applicants' invention was made to have provided a phosphor sediment layer comprising phosphor powders in Application No. 10/662289 in order to create stable lighting as taught by Chin et al.

As to claim 5, Chin et al. teaches that the light given off by the LED is dependent on the combination of the light given off by the die and the phosphor layer used (paragraph 0014, lines 12-13). For example, if the die emits a blue light, while the phosphor layer receives the blue light and in turn gives off a yellow light, the mixture would yield a white light (paragraph 0014, lines 13-18).

Therefore, it would have been obvious to one of ordinary skill at the time applicants' invention was made to have used a white light in Application No. 10/662289 since the color of light would be easily changed depending on the end use of product as taught by Chin et al.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3-7, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Chin et al. (U.S. 2004/0135162).

Chin et al. teaches a light emitting diode (LED) package structure (fig 1), comprising: a substrate (fig 1, #1); a light emitting diode die located on the substrate (fig 1, #3); and a phosphoric medium layer located on the substrate and covered the light emitting diode die (fig 1, #5), (fig 4, #711), wherein the phosphoric medium layer comprises a package mold (fig 4, #711) precipitated a phosphor sediment layer comprises phosphor powders (paragraph 0015, line 6) on bottom and the phosphor sediment layer tightly covers the light emitting diode die (fig 4, #711) emitting white light (paragraph 0014, line 19) and further covered by an outer package mold (fig 4, #7). Chin et al. also teaches that the LED structure is mounted to a circuit board (paragraph 0016, line 3). As to claims 4 and 7, the claimed aspects of forming on the substrate by a casting mold, in general, applicant is introducing method limitation into product claim and, hence, such are given little patentable weight.

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6. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsuno (U.S. 2004/0089846).

Matsuno teaches a light emitting diode structure (paragraph 0002, lines 4-5), comprising; a substrate (fig 2, #1); a light emitting diode (LED) located on the substrate (fig 2, #2); and a phosphoric medium layer located on the substrate (fig 2, #5,6) and covered the light emitting diode die (fig 2, #2), wherein the phosphoric medium layer comprises a package mold (fig 2, #5) wherein the package mold is an epoxy resin (paragraph 0053, line 9) and a precipitated phosphor layer (fig 2, #5) composed of phosphor powders (paragraph 0041, line 2) and the phosphor sediment layer tightly covers the light emitting diode die (fig 2, #5) emitting a white light (paragraph 0054, lines 6-7) further covered by an outer package mold (fig 2, #6) comprised of an epoxy resin (paragraph 0082, line 3). As to claims 4 and 7, the claimed aspects of forming on the substrate by a casting mold, in general, applicant is introducing method limitation into product claim and, hence, such are given little patentable weight.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chin et al (U.S. 2004/0135162) in view of Ota et al. (U.S. 2004/0051111).

Chin et al. teaches an LED package structure as described above. Chin et al fails to teach that the package mold is an epoxy resin.

Ota et al., however, teaches a LED package structure comprising a package mold (fig 4, #88) further comprising an epoxy resin (paragraph 0103, lines 7-8) for the purpose of becoming transparent after curing thereof (paragraph 0103, line 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicants' invention was made to have provided an outer package mold comprising an epoxy resin in Chin et al. in order to produce a transparent sealing material as taught by Ota et al.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuno (U.S. 2004/0089846) in view of Chin et al (U.S. 2004/0135162).

Matsuno teaches a LED package as described above. Matsuno fails to teach the LED package mounted on a circuit board.

Chin et al., however, teaches a LED package structure which is mounted to a circuit board (paragraph 0016, line 3) for the purpose of connection to a power source (paragraph 0016, lines 6-8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicants' invention was made to have provided a substrate comprising a circuit board in Matsuno in order to connect the LED package structure to a power source as taught by Chin et al.

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Conclusion

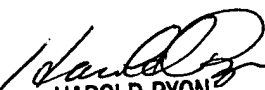
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Wartalowicz whose telephone number is (571) 272-5957. The examiner can normally be reached on 8:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Wartalowicz
June 13, 2005



HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

6/20/05